

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A brushless DC motor, comprising;
a rotor assembly including a rotatable shaft having a permanent magnet affixed to the shaft;
a plurality of coils for producing a magnetic field for applying a torque to the rotor assembly, said coils including end turns that enclose the rotor assembly such that the rotor assembly is not removable;
a winding form enclosing the rotor assembly for winding the coils thereon after the rotor has been enclosed by the winding form; and
a stator stack made of a stator magnetic material for providing a magnetic flux return path.
2. (cancelled)
3. (currently amended) The DC motor of Claim 23 wherein the winding form further includes a tube, a plurality of teeth, and an end plug.
4. (original) The DC motor of Claim 3 wherein the tube, end plug, and teeth are made from a molded plastic.

5. (original) The DC motor of Claim 1 wherein the coils are wound in a three phase winding configuration selected from the group of: delta configuration and wye configuration.
6. (original) The DC motor of Claim 5 wherein the coils are connected in the delta configuration.
7. (original) The DC motor of Claim 1 wherein the coils are layer wound.
8. (original) The DC motor of Claim 1 wherein the stator magnetic material is a laminated silicon steel.
9. (original) The DC motor of Claim 1 further comprising a position sensor system selected from the group comprised of: Hall effect sensors and leakage flux sensors.
10. (original) The DC motor of Claim 1 wherein the permanent magnet is magnetized after the plurality of coils are wound.

11. (currently amended) A brushless DC motor, comprising:
a rotor assembly including a rotatable shaft and a permanent magnet affixed to the shaft, said permanent magnet for generating a magnetic field;
a winding form enclosing the rotor assembly;
a plurality of coils wound upon the winding form after the rotor assembly has been enclosed by the winding form for producing a magnetic field for applying a torque to the rotor assembly, said coils including end turns that enclose the rotor assembly such that the rotor assembly is not removable, wherein said coils are connected in a three phase delta configuration having a positional relationship with the permanent magnet;
a stator stack made of a stator magnetic material for providing a magnetic flux return path for the magnetic field of the permanent magnet;
a position sensor system for sensing the positional relationship that the coils have with the permanent magnet; and
a controller coupled to the position sensor for controlling the application of a power source to the coils in response to the positional relationship of the coils and the permanent magnet.

12. (original) The DC motor of Claim 11 wherein the stator magnetic material is a laminated silicon steel.

13. (original) The DC motor of Claim 11 wherein the position sensor system is selected from the group comprised of: Hall effect sensors and leakage flux sensors.

14-39 (withdrawn).

40. (original) A brushless DC motor, comprising;

a rotor assembly including a rotatable shaft having a permanent magnet affixed to the shaft;

an encapsulated stator defining an interface with the rotor assembly such that an air gap is formed; the stator comprising;

a plurality of coils for producing a magnetic field to apply a torque to the rotor assembly; and

a stator stack made of a stator magnetic material for providing a magnetic flux return path; and

a seal applied to the interface being adapted to seal the air gap such that the air gap is blocked off.

41. (original) The DC motor of Claim 40 wherein the encapsulated stator further includes a winding form that encircles the rotor assembly such that ~~an~~the air gap is maintained between the winding form and the rotor assembly, the winding form being configured to receive the plurality of coils.

42. (original) The DC motor of Claim 41 wherein the winding form further includes a tube, a plurality of teeth, and an end plug.

43. (original) The DC motor of Claim 42 wherein the tube, end plug, and teeth are made from a molded plastic.

44. (currently amended) ~~The DC motor of Claim 42 further comprising~~ A brushless DC motor, comprising;

a rotor assembly including a rotatable shaft having a permanent magnet affixed to the shaft;

an encapsulated stator defining an interface with the rotor assembly such that an air gap is formed; the stator comprising;

a plurality of coils for producing a magnetic field to apply a torque to the rotor assembly;

a stator stack made of a stator magnetic material for providing a magnetic flux return path; and

a winding form that encircles the rotor assembly such that an air gap is maintained between the winding form and the rotor assembly, the winding form being configured to receive the plurality of coils;

a seal applied to the interface being adapted to seal the air gap such that the air gap is blocked off; and

an end bell affixed to the stator being adapted to support the rotor assembly such that the air gap is maintained.

45. (currently amended) The DC motor of Claim 44 wherein the winding form further includes a tube, a plurality of teeth, and an end plug, and the seal is adapted to contact the end plug and the end bell, thereby blocking off the air gap.

46. (original) The DC motor of Claim 40 wherein the seal is formed from a compliant material.

47. (amended) The DC motor of Claim 40 wherein said coils include end turns that enclose the rotor assembly such that the rotor assembly is not removable.

48. (original) The DC motor of Claim 47 wherein the coils are wound in a three phase winding configuration selected from the group of: delta configuration and wye configuration.

49. (original) The DC motor of Claim 48 wherein the coils are connected in the delta configuration.

50 – 55 (withdrawn).